

Remarks

Claims 1-20 are pending in the application, and each was rejected. By this paper, claims 5, 6 and 17 are amended. Based on the following, consideration of the amended claims and reconsideration of the remaining claims are requested.

Claim Rejections — 35 U.S.C. § 112

The Examiner rejected claims 5-8 and 17-20 under 35 U.S.C. § 112, second paragraph. In particular, the Examiner states that claim 5 includes a number of limitations for which there is insufficient antecedent basis. Similarly, the Examiner states that claim 17 includes limitations for which there is insufficient antecedent basis.

By this paper, claim 5 is amended to depend from claim 4; with this change, each of the limitations in claim 5 has sufficient antecedent basis. In addition, claim 17 is amended to replace the definite articles “the” and “said” with the indefinite article “a”. With these changes, each of the limitations in claim 17 has sufficient antecedent basis. Finally, claim 6 is amended to include the word “of”, which was inadvertently omitted from the originally-filed claim.

Claim Rejections — 35 U.S.C. § 102

The Examiner rejected claims 9-13 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,633,216 (Tsuyama). The Examiner states that “Tsuyama discloses a vehicle 8 including an apparatus 2 for displaying a maximum sustainable speed of said vehicle, . . . [and] a pulse wheel sensor 5 for measuring acceleration.”

The MPEP states that “‘a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.’” MPEP § 2131, 8th ed., Rev. 1 (citation omitted). The MPEP further states that “‘the identical invention must be shown in as complete detail as is contained in the claim.’” *Id.* (citation omitted). An examination of the Tsuyama reference, including the specification, claims and drawing figures, shows that claims 9-13 of the present application each contain

elements which are neither expressly nor inherently described in Tsuyama. For example, claim 9 recites “[a] vehicle including an apparatus for continually determining and displaying a maximum sustainable speed of said vehicle.” No such apparatus is described in Tsuyama.

Tsuyama does describe a data display unit for a bicycle, which can display a number of parameters related to the bicycle and its operation. For example, the display unit includes a mode key 20, which, when repeatedly pressed, scrolls through various display modes, including: running time, running distance, average speed, maximum speed, total distance, and then back to running time. (Col. 6, ll. 7-11.) Nowhere does Tsuyama describe, either expressly or inherently, an apparatus for determining and displaying a maximum sustainable speed of a vehicle, as is specifically recited in claim 9. The maximum *sustainable* speed of a bicycle as described in Tsuyama would be dependent on factors including the strength and stamina of the particular rider operating the bicycle. Therefore, in order to “continually determin[e] and display[] a maximum sustainable speed” of the bicycle, an apparatus would need to continually monitor the strength and stamina of the bicycle rider as it changed throughout the duration of the ride. No such apparatus is described, or even suggested, by the text or drawing figures of Tsuyama. Therefore, claim 9 contains elements which are neither expressly nor inherently described in Tsuyama, and the MPEP definition of anticipation with regard to claim 9 is not met.

Claim 9 is the base claim for claims 10-13. Each of these dependent claims contains all of the limitations of its base claim, as well as additional limitations which further distinguish it from the cited reference. For example, claim 11 recites “a pulse wheel which is coupled to said controller, which measures an acceleration of said vehicle, and which communicates said measured acceleration to said controller.” Tsuyama does not describe, either expressly or inherently, a pulse wheel which measures acceleration. Tsuyama does describe a “first revolution detecting portion 3” which detects the running speed of the bicycle, and a “second revolution detecting portion 4” which detects the number of revolutions of a pedal. (Col. 2, ll. 47-51.) In addition, Tsuyama states that “these portions 3 and 4 may be structured by photo sensors or photo electronic sensors or the like for providing pulse signals

according to the change in the light transmission and interception.” (Col. 3, ll. 38-41.) Using a pulse sensor to determine a number of revolutions, and thereby facilitate a determination of speed or distance traveled, is markedly different from measuring an acceleration, as is specifically recited in claim 11 of the present application. Indeed, the acceleration of a vehicle is a function of the change in vehicle velocity over some period of time. Although Tsuyama does describe various speed and distance displays, nowhere does it describe an acceleration measurement or the communication of an acceleration measurement to a controller. Thus, dependent claims 10-13 each contain elements which are neither expressly nor inherently described in Tsuyama or any of the other cited references. Therefore, the MPEP definition of anticipation is not met with regard to claims 10-13.

Claim Rejections — 35 U.S.C. § 103

The Examiner rejected claims 1-3 and 14-16 under 35 U.S.C. § 103(a) as being unpatentable over Tsuyama. The Examiner also rejected claims 4-8 and 14-20 under 35 U.S.C. § 103(a) as being unpatentable over Tsuyama, as applied to claim 1, and further in view of U.S. Patent No. 5,992,553 (Morrison). Finally, the Examiner rejected claims 17-20, stating that “the method recited in these claims is inherently performed in the use of the speed sensing apparatus of Tsuyama and Morrison”

The MPEP states that in order to establish *prima facie* obviousness, all of the claim limitations of an invention must be taught or suggested by the prior art. MPEP § 2143.03, 8th ed., Rev. 1. Neither Tsuyama nor Morrison, alone or in combination with any of the other cited references, teach or suggest all of the claim limitations of any of the claims of the present application. For example, claim 1 recites “a controller which calculates a maximum sustainable speed of a hybrid electric vehicle; and a display which is coupled to said controller and which displays said calculated maximum sustainable speed.” None of the cited references teach, or even suggest, the calculation of a maximum sustainable speed of any vehicle, including a hybrid electric vehicle. As discussed above with regard to the anticipation rejections, Tsuyama does not expressly or inherently describe any type of apparatus, including a controller, for determining or calculating a maximum sustainable speed of a vehicle.

Moreover, Tsuyama does not even suggest such an apparatus. There is no mention anywhere in Tsuyama of determining a maximum sustainable speed. The same is true for Morrison.

The vehicle described in Morrison is also a bicycle, and as discussed above, the maximum sustainable speed of a bicycle, if it could be calculated, is dependent upon the physical attributes of the bicycle rider. Morrison does describe a power augmentation system for a bicycle that includes a motor that is designed to augment a rider's power input when it is required. (Col. 3, ll. 22-32.) The motor is controlled by a motor-control signal which is variable in response to the pedal force applied by the rider. (Col. 3, ll. 22-35.) The motor-control signal operates the motor to provide power proportional to the amount by which the rider's input exceeds a predetermined force threshold value. (Col. 3, ll. 35-39.) Determining an amount of force applied to the pedals of a bicycle, and operating a motor to augment the bicycle power, is not the same as calculating a maximum sustainable speed and displaying the calculated maximum sustainable speed, as is specifically recited in claim 1 of the present application. Indeed, neither Tsuyama or Morrison, alone or in combination with any of the other cited references, even suggests such a limitation. Therefore, with regard to claim 1, the MPEP requirements for establishing *prima facie* obviousness are not met.

Similarly, claim 14 recites a method for operating a vehicle which includes "determining a maximum sustainable speed; and using said maximum sustainable speed to determine whether to cause said vehicle to perform a certain maneuver." Again, no such limitations are taught or suggested by any of the cited references. As discussed above, none of the cited references teach or suggest the determination of a maximum sustainable speed for a vehicle. Therefore, the cited references do not teach or suggest any use of a determined maximum sustainable speed, and in particular, they do not teach or suggest the use of a determined maximum sustainable speed to further determine whether to cause a vehicle to perform a certain maneuver. Yet these limitations are specifically recited in claim 14 of the present application. Therefore, with regard to claim 14, the MPEP requirements for establishing *prima facie* obviousness are not met.

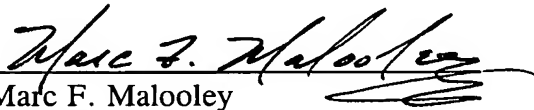
Claims 1 and 14 respectively form the base claims for claims 2-8 and 15-20. Each of these dependent claims contains all of the limitations of its respective base claim, as well as additional limitations which further distinguish it from the cited references. For example, claim 3 recites a controller that “calculates a second maximum sustainable speed . . . and causes said second maximum sustainable speed to be displayed only if said second maximum sustainable speed differs from said previously calculated maximum sustainable speed by a predetermined amount.” None of the cited references, alone or in combination, teach or suggest calculating a first maximum sustainable speed, much less a second maximum sustainable speed. Moreover, none of the cited references teach or suggest displaying a second maximum sustainable speed only under certain conditions, such as specifically recited in claim 3 of the present application.

Similarly, claim 15 of the present application recites “calculating said maximum sustainable speed only if said speed of said vehicle is greater than zero.” None of the cited references teach or suggest calculating a maximum sustainable speed under any conditions, much less with the further limitation that the calculation only take place if the vehicle speed is greater than zero. Yet this limitation is recited in claim 15 of the present application. Claim 17 recites that the step of calculating the maximum sustainable speed includes “measuring an acceleration of a hybrid electric vehicle; measuring a torque of at least one axle of said hybrid electric vehicle; estimating a grade force; and using said torque and said estimated grade to calculate said maximum sustainable speed only if said measured acceleration is greater than zero.” As discussed above, none of the cited references, either alone or in combination, teach or suggest calculating a maximum sustainable speed of a vehicle under any conditions; therefore, they do not teach or suggest calculating a maximum sustainable speed under the conditions set forth in claim 17 of the present application. Therefore, with regard to dependent claims 2-8 and 15-20, the MPEP requirements for establishing *prima facie* obviousness are not met.

Based on the foregoing, allowance of each of the pending claims is requested.

Respectfully submitted,

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